



1

SEQUENCE LISTING

<110> BAUMANN, PETER
CECH, THOMAS R.<120> PROTECTION-OF-TELOMERE-1 (POT-1) PROTEIN AND ENCODING
POLYNUCLEOTIDES

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<140> 09/816,248

<141> 2001-03-26

<160> 45

<170> PatentIn Ver. 2.1

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<212> PRT

<213> Euplotes crassus

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Cys Lys Val Ala Asp Pro Ser Ser Val Ala Lys Gly Gly Lys Leu Asn
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Thr Val Asn Val Val Phe Phe Ser Gln Asn Phe Glu Asp Leu Pro Ile
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 Gly Asp Ala Ser Asp Tyr Ala Thr Leu Val Leu Tyr Ala Lys Arg Phe
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 Leu Lys Ile Val Asp Pro Ser Leu Tyr Leu Lys Lys Glu Lys Gly Thr
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 Gly Asp Asn Ser Asp Tyr Ala Thr Leu Val Leu Tyr Ala Lys Arg Phe
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<213> Schizosaccharomyces pombe

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Val Tyr Leu Trp Asp Pro Thr Cys Asp Thr Ser Ser Ile Gly Leu Gln
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Pro Asp Phe Ser
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Val Lys Asp Phe Thr Pro Ser Arg Gln Ser Leu His Gly Thr Lys Asp
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Trp Val Thr Thr Val Tyr Leu Trp Asp Pro Thr Cys Asp Thr Ser Ser
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Ile Gly Leu Gln Ile His Leu Phe Ser Lys Gln Gly Asn Asp Leu Pro
85 90 95

Val Ile Lys Gln Val Gly Gln Pro Leu Leu Leu His Gln Ile Thr Leu
100 105 110

Arg Ser Tyr Arg Asp Arg Thr Gln Gly Leu Ser Lys Asp Gln Phe Arg
115 120 125

Tyr Ala Leu Trp Pro Asp Phe Ser Ser Asn Ser Lys Asp Thr Leu Cys
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 Lys Asn Gly Glu Leu Leu Ser Thr Ser Ser Ala Arg Gln Asn Gln Thr
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 Gly Leu Ser Tyr Pro Ser Val Ser Phe Ser Leu Leu Ser Gln Ile Thr
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 Pro His Gln Arg Cys Ser Phe Tyr Ala Gln Val Ile Lys Thr Trp Tyr
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 Ser Glu Glu Pro Glu Leu Asn Glu Ile Lys Ser Arg Lys Arg Leu Tyr
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Ser Tyr Val Trp Met Phe Ala Leu Leu Val Arg Asp Val Ser Asn Val
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<212> DNA

<213> Schizosaccharomyces pombe

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35 40 45

Val Lys Asp Phe Thr Pro Ser Arg Gln Ser Leu His Gly Thr Lys Gly
50 55 60

Met Leu Ala Tyr His Gly Gly Asn Tyr Thr Phe Tyr Phe Ser Ser Gln
65 70 75 80

Glu Leu Ile Ile Met Phe Leu Asp Trp Val Thr Thr Val Tyr Leu Trp
85 90 95

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115 120 125

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130 135 140

Gly Leu Ser Lys Asp Gln Phe Arg Tyr Ala Leu Trp Pro Asp Phe Ser
 145 150 155 160

Ser Asn Ser Lys Asp Thr Leu Cys Pro Gln Pro Met Pro Arg Leu Met
165 170 175

Lys Thr Gly Asp Lys Glu Glu Gln Phe Ala Leu Leu Leu Asn Lys Ile
 180 185 190

Trp Asp Glu Gln Thr Asn Lys His Lys Asn Gly Glu Leu Leu Ser Thr
195 200 205

Ser Ser Ala Arg Gln Asn Gln Thr Gly Leu Ser Tyr Pro Ser Val Ser
 210 215 220

Phe	Ser	Leu	Leu	Ser	Gln	Ile	Thr	Pro	His	Gln	Arg	Cys	Ser	Phe	Tyr
225					230					235					240

Ala Gln Val Ile Lys Thr Trp Tyr Ser Asp Lys Asn Phe Thr Leu Tyr
245 250 255

Val Thr Asp Tyr Thr Glu Asn Glu Leu Phe Phe Pro Met Ser Pro Tyr
 260 265 270

 Thr Ser Ser Ser Arg Trp Arg Gly Pro Phe Gly Arg Phe Ser Ile Arg
 275 280 285

 Cys Ile Leu Trp Asp Glu His Asp Phe Tyr Cys Arg Asn Tyr Ile Lys
 290 295 300

 Glu Gly Asp Tyr Val Val Met Lys Asn Val Arg Thr Lys Ile Asp His
 305 310 315 320

 Leu Gly Tyr Leu Glu Cys Ile Leu His Gly Asp Ser Ala Lys Arg Tyr
 325 330 335

 Asn Met Ser Ile Glu Lys Val Asp Ser Glu Glu Pro Glu Leu Asn Glu
 340 345 350

 Ile Lys Ser Arg Lys Arg Leu Tyr Val Gln Asn Cys Gln Asn Gly Ile
 355 360 365

 Glu Ala Val Ile Glu Lys Leu Ser Gln Ser Gln Ser Glu Asn Pro
 370 375 380

 Phe Ile Ala His Glu Leu Lys Gln Thr Ser Val Asn Glu Ile Thr Ala
 385 390 395 400

 His Val Ile Asn Glu Pro Ala Ser Leu Lys Leu Thr Thr Ile Ser Thr
 405 410 415

 Ile Leu His Ala Pro Leu Gln Asn Leu Leu Lys Pro Arg Lys His Arg
 420 425 430

 Leu Arg Val Gln Val Val Asp Phe Trp Pro Lys Ser Leu Thr Gln Phe
 435 440 445

 Ala Val Leu Ser Gln Pro Pro Ser Ser Tyr Val Trp Met Phe Ala Leu
 450 455 460

 Leu Val Arg Asp Val Ser Asn Val Thr Leu Pro Val Ile Phe Phe Asp
 465 470 475 480

 Ser Asp Ala Ala Glu Leu Ile Asn Ser Ser Lys Ile Gln Pro Cys Asn
 485 490 495

 Leu Ala Asp His Pro Gln Met Thr Leu Gln Leu Lys Glu Arg Leu Phe
 500 505 510

 Leu Ile Trp Gly Asn Leu Glu Glu Arg Ile Gln His His Ile Ser Lys
 515 520 525

 Gly Glu Ser Pro Thr Leu Ala Ala Glu Asp Val Glu Thr Pro Trp Phe
 530 535 540

 Asp Ile Tyr Val Lys Glu Tyr Ile Pro Val Ile Gly Asn Thr Lys Asp
 545 550 555 560

His Gln Ser Leu Thr Phe Leu Gln Lys Arg Trp Arg Gly Phe Gly Thr
 565 570 575

Lys Ile Val

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<211> 1905  
<212> DNA  
<213> Homo sapiens
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ctcttagtg gaaactatga agcccttcca ataatttata aaaatggaga tattgttcgc 240
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tctactcata tgtcaccgtc ttggacattt ctaaaattgt gtgatgttca gccaatgcag 480
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<210> 13
<211> 634
<212> PRT
<213> *Homo sapiens*

<400> 13
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Leu Lys Gly Gly Thr Ile Val Asn Val Tyr Gly Val Val Lys Phe Phe
20 25 30

Lys Pro Pro Tyr Leu Ser Lys Gly Thr Asp Tyr Cys Ser Val Val Thr
 35 40 45

Ile Val Asp Gln Thr Asn Val Lys Leu Thr Cys Leu Leu Phe Ser Gly
 50 55 60

Asn Tyr Glu Ala Leu Pro Ile Ile Tyr Lys Asn Gly Asp Ile Val Arg
 65 70 75 80

Phe His Arg Leu Lys Ile Gln Val Tyr Lys Lys Glu Thr Gln Gly Ile
 85 90 95

Thr Ser Ser Gly Phe Ala Ser Leu Thr Phe Glu Gly Thr Leu Gly Ala
 100 105 110

Pro Ile Ile Pro Arg Thr Ser Ser Lys Tyr Phe Asn Phe Thr Thr Glu
 115 120 125

Asp His Lys Met Val Glu Ala Leu Arg Val Trp Ala Ser Thr His Met
 130 135 140

Ser Pro Ser Trp Thr Leu Leu Lys Leu Cys Asp Val Gln Pro Met Gln
 145 150 155 160

Tyr Phe Asp Leu Thr Cys Gln Leu Leu Gly Lys Ala Glu Val Asp Gly
 165 170 175

Ala Ser Phe Leu Leu Lys Val Trp Asp Gly Thr Arg Thr Pro Phe Pro
 180 185 190

Ser Trp Arg Val Leu Ile Gln Asp Leu Val Leu Glu Gly Asp Leu Ser
 195 200 205

His Ile His Arg Leu Gln Asn Leu Thr Ile Asp Ile Leu Val Tyr Asp
 210 215 220

Asn His Val His Val Ala Arg Ser Leu Lys Val Gly Ser Phe Leu Arg
 225 230 235 240

Ile Tyr Ser Leu His Thr Lys Leu Gln Ser Met Asn Ser Glu Asn Gln
 245 250 255

Thr Met Leu Ser Leu Glu Phe His Leu His Gly Gly Thr Ser Tyr Gly
 260 265 270

Arg Gly Ile Arg Val Leu Pro Glu Ser Asn Ser Asp Val Asp Gln Leu
 275 280 285

Lys Lys Asp Leu Glu Ser Ala Asn Leu Thr Ala Asn Gln His Ser Asp
 290 295 300

Val Ile Cys Gln Ser Glu Pro Asp Asp Ser Phe Pro Ser Ser Gly Ser
 305 310 315 320

Val Ser Leu Tyr Glu Val Glu Arg Cys Gln Gln Leu Ser Ala Thr Ile
 325 330 335

Leu Thr Asp His Gln Tyr Leu Glu Arg Thr Pro Leu Cys Ala Ile Leu
 340 345 350

Lys Gln Lys Ala Pro Gln Gln Tyr Arg Ile Arg Ala Lys Leu Arg Ser
 355 360 365

Tyr Lys Pro Arg Arg Leu Phe Gln Ser Val Lys Leu His Cys Pro Lys
 370 375 380

Cys His Leu Leu Gln Glu Val Pro His Glu Gly Asp Leu Asp Ile Ile
 385 390 395 400

Phe Gln Asp Gly Ala Thr Lys Thr Pro Val Val Lys Leu Gln Asn Thr
 405 410 415

Ser Leu Tyr Asp Ser Lys Ile Trp Thr Thr Lys Asn Gln Lys Gly Arg
 420 425 430

Lys Val Ala Val His Phe Val Lys Asn Asn Gly Ile Leu Pro Leu Ser
 435 440 445

Asn Glu Cys Leu Leu Ile Glu Gly Gly Thr Leu Ser Glu Ile Cys
 450 455 460

Lys Leu Ser Asn Lys Phe Asn Ser Val Ile Pro Val Arg Ser Gly His
 465 470 475 480

Glu Asp Leu Glu Leu Asp Leu Ser Ala Pro Phe Leu Ile Gln Gly
 485 490 495

Thr Ile His His Tyr Gly Cys Lys Gln Cys Ser Ser Leu Arg Ser Ile
 500 505 510

Gln Asn Leu Asn Ser Leu Val Asp Lys Thr Ser Trp Ile Pro Ser Ser
 515 520 525

Val Ala Glu Ala Leu Gly Ile Val Pro Leu Gln Tyr Val Phe Val Met
 530 535 540

Thr Phe Thr Leu Asp Asp Gly Thr Gly Val Leu Glu Ala Tyr Leu Met
 545 550 555 560

Asp Ser Asp Lys Phe Phe Gln Ile Pro Ala Ser Glu Val Leu Met Asp
 565 570 575

Asp Asp Leu Gln Lys Ser Val Asp Met Ile Met Asp Met Phe Cys Pro
 580 585 590

Pro Gly Ile Lys Ile Asp Ala Tyr Pro Trp Leu Glu Cys Phe Ile Lys
 595 600 605

Ser Tyr Asn Val Thr Asn Gly Thr Asp Asn Gln Ile Cys Tyr Gln Ile
 610 615 620

Phe Asp Thr Thr Val Ala Glu Asp Val Ile
 625 630

<210> 14
<211> 1298
<212> DNA
<213> Homo sapiens

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ctcttagtg gaaactatga agcccttcca ataatttata aaaatggaga tattgttcgc 240
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<211> 340
<212> PRT
<213> Homo sapiens

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Leu Lys Gly Gly Thr Ile Val Asn Val Tyr Gly Val Val Lys Phe Phe
20 25 30
Lys Pro Pro Tyr Leu Ser Lys Gly Thr Asp Tyr Cys Ser Val Val Thr
35 40 45
Ile Val Asp Gln Thr Asn Val Lys Leu Thr Cys Leu Leu Phe Ser Gly
50 55 60
Asn Tyr Glu Ala Leu Pro Ile Ile Tyr Lys Asn Gly Asp Ile Val Arg
65 70 75 80
Phe His Arg Leu Lys Ile Gln Val Tyr Lys Lys Glu Thr Gln Gly Ile
85 90 95
Thr Ser Ser Gly Phe Ala Ser Leu Thr Phe Glu Gly Thr Leu Gly Ala
100 105 110

Pro Ile Ile Pro Arg Thr Ser Ser Lys Tyr Phe Asn Phe Thr Thr Glu
 115 120 125
 Asp His Lys Met Val Glu Ala Leu Arg Val Trp Ala Ser Thr His Met
 130 135 140
 Ser Pro Ser Trp Thr Leu Leu Lys Leu Cys Asp Val Gln Pro Met Gln
 145 150 155 160
 Tyr Phe Asp Leu Thr Cys Gln Leu Leu Gly Lys Ala Glu Val Asp Gly
 165 170 175
 Ala Ser Phe Leu Leu Lys Val Trp Asp Gly Thr Arg Thr Pro Phe Pro
 180 185 190
 Ser Trp Arg Val Leu Ile Gln Asp Leu Val Leu Glu Gly Asp Leu Ser
 195 200 205
 His Ile His Arg Leu Gln Asn Leu Thr Ile Asp Ile Leu Val Tyr Asp
 210 215 220
 Asn His Val His Val Ala Arg Ser Leu Lys Val Gly Ser Phe Leu Arg
 225 230 235 240
 Ile Tyr Ser Leu His Thr Lys Leu Gln Ser Met Asn Ser Glu Asn Gln
 245 250 255
 Thr Met Leu Ser Leu Glu Phe His Leu His Gly Gly Thr Ser Tyr Gly
 260 265 270
 Arg Gly Ile Arg Val Leu Pro Glu Ser Asn Ser Asp Val Asp Gln Leu
 275 280 285
 Lys Lys Asp Leu Glu Ser Ala Asn Leu Thr Ala Asn Gln His Ser Asp
 290 295 300
 Val Ile Cys Gln Ser Glu Pro Asp Asp Ser Phe Pro Asn Gly Val Ser
 305 310 315 320
 Leu Arg Pro Pro Gly Trp Ser Ser Val Ala Arg Ser Arg Leu Ile Ala
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 Ala Ser Thr Ser
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<210> 16
 <211> 1816
 <212> DNA
 <213> Homo sapiens

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 ctcttttagtgc gaaactatgc agcccttcca ataatttata aaaatggaga tattgttcgc 240
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 agaagatgtta atctaa 1816

<210> 17

<211> 518

<212> PRT

<213> Homo sapiens

<400> 17

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Leu	Lys	Gly	Gly	Thr	Ile	Val	Asn	Val	Tyr	Gly	Val	Val	Lys	Phe	Phe
								20					30		

Lys	Pro	Pro	Tyr	Leu	Ser	Lys	Gly	Thr	Asp	Tyr	Cys	Ser	Val	Val	Thr
								35				40		45	

Ile	Val	Asp	Gln	Thr	Asn	Val	Lys	Leu	Thr	Cys	Leu	Leu	Phe	Ser	Gly
								50			55		60		

Asn	Tyr	Glu	Ala	Leu	Pro	Ile	Ile	Tyr	Lys	Asn	Gly	Asp	Ile	Val	Arg
								65			75		80		

Phe	His	Arg	Leu	Lys	Ile	Gln	Val	Tyr	Lys	Lys	Glu	Thr	Gln	Gly	Ile
								85			90		95		

Thr	Ser	Ser	Gly	Phe	Ala	Ser	Leu	Thr	Phe	Glu	Gly	Thr	Leu	Gly	Ala
								100			105		110		

Pro	Ile	Ile	Pro	Arg	Thr	Ser	Ser	Lys	Tyr	Phe	Asn	Phe	Thr	Thr	Glu
								115			120		125		

Asp His Lys Met Val Glu Ala Leu Arg Val Trp Ala Ser Thr His Met
 130 135 140

Ser Pro Ser Trp Thr Leu Leu Lys Leu Cys Asp Val Gln Pro Met Gln
 145 150 155 160

Tyr Phe Asp Leu Thr Cys Gln Leu Leu Gly Lys Ala Glu Val Asp Gly
 165 170 175

Ala Ser Phe Leu Leu Lys Val Trp Asp Gly Thr Arg Thr Pro Phe Pro
 180 185 190

Ser Trp Arg Val Leu Ile Gln Asp Leu Val Leu Glu Gly Asp Leu Ser
 195 200 205

His Ile His Arg Leu Gln Asn Leu Thr Ile Asp Ile Leu Val Tyr Asp
 210 215 220

Asn His Val His Val Ala Arg Ser Leu Lys Val Gly Ser Phe Leu Arg
 225 230 235 240

Ile Tyr Ser Leu His Thr Lys Leu Gln Ser Met Asn Ser Glu Asn Gln
 245 250 255

Thr Met Leu Ser Leu Glu Phe His Leu His Gly Gly Thr Ser Tyr Gly
 260 265 270

Arg Gly Ile Arg Val Leu Pro Glu Ser Asn Ser Asp Val Asp Gln Leu
 275 280 285

Lys Lys Asp Leu Glu Ser Ala Asn Leu Thr Ala Asn Gln His Ser Asp
 290 295 300

Val Ile Cys Gln Ser Glu Pro Asp Asp Ser Phe Pro Ser Ser Gly Ser
 305 310 315 320

Val Ser Leu Tyr Glu Val Glu Arg Cys Gln Gln Leu Ser Ala Thr Ile
 325 330 335

Leu Thr Asp His Gln Tyr Leu Glu Arg Thr Pro Leu Cys Ala Ile Leu
 340 345 350

Lys Gln Lys Ala Pro Gln Gln Tyr Arg Ile Arg Ala Lys Leu Arg Ser
 355 360 365

Tyr Lys Pro Arg Arg Leu Phe Gln Ser Val Lys Leu His Cys Pro Lys
 370 375 380

Cys His Leu Leu Gln Glu Val Pro His Glu Gly Asp Leu Asp Ile Ile
 385 390 395 400

Phe Gln Asp Gly Ala Thr Lys Thr Pro Asp Val Lys Leu Gln Asn Thr
 405 410 415

Ser Leu Tyr Asp Ser Lys Ile Trp Thr Thr Lys Asn Gln Lys Gly Arg
 420 425 430

Lys Val Ala Val His Phe Val Lys Asn Asn Gly Ile Leu Pro Leu Ser
 435 440 445

Asn Glu Cys Leu Leu Leu Ile Glu Gly Gly Thr Leu Ser Glu Ile Cys
 450 455 460

Lys Leu Ser Asn Lys Phe Asn Ser Val Ile Pro Val Arg Ser Gly His
 465 470 475 480

Glu Asp Leu Glu Leu Leu Asp Leu Ser Ala Pro Phe Leu Ile Gln Gly
 485 490 495

Thr Ile His His Tyr Gly Thr Gly Tyr Cys Thr Pro Pro Ile Cys Val
 500 505 510

Cys Tyr Asp Leu Tyr Thr
 515

<210> 18

<211> 27377

<212> DNA

<213> Homo sapiens

<400> 18

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